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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,441	10/15/2003	Yoshihiro Nonaka	Q78002	8870
7590	04/11/2005			EXAMINER TRA, ANH QUAN
SUGHRUE, MION, ZINN, MACPEAK & SEAS 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			ART UNIT 2816	PAPER NUMBER

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/684,441	NONAKA, YOSHIHIRO
	<b>Examiner</b>	<b>Art Unit</b>
	Quan Tra	2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 24 February 2005.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-42 and 44-47 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 1-41 is/are allowed.

6) Claim(s) 42 and 47 is/are rejected.

7) Claim(s) 44-46 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

This office action is in response to the amendment filed 02/24/05. A new ground of rejection is introduced as necessitated by amendment.

### *Claim Objection*

Claim 47, "i-VDD" should be --i.VDD--.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 42 is rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's admitted prior art figures 1-5.

The prior art figure 1 shows a step-up apparatus comprising: a level shift circuit (1) for receiving a first clock signal ( $\Phi_0$ ) to generate a 2nd clock signal ( $/\Phi_1$ ), a third clock signal ( $\Phi_1$ ), -, a K-th clock signal ( $K= 2$ ) having a definite voltage swing; and a charge pump circuit (3), connected a first level shift circuit, for stepping up a power supply voltage (VDD) at a power supply voltage terminal using the first, second, K-th clock signals to generate positive voltage, the charge pump comprises a first circuit (31 in figure 5) including a first step-up switching element (323) connected to the power supply voltage terminals for generating the power supply voltage in accordance with the first clock signal; an i-th ( $i=2, 3, \dots, K$ ) ( $i =2$ ) circuit including a charging capacitor (321) a first charging element (322) connected between a ground terminal and the charging capacitor; a second charging element (323) connected between the charging

capacitor and the power supply voltage terminal; and a second step-up switching element (324) connected to the charging capacitor and the second charging element for generating an "i" times the power supply voltage; wherein the second step up switching element of the i-th ( $i = 2, 3, \dots, K$ ) circuit comprises a P-channel MOS transistor controlled by an i-th clock signal.

3. Claim 47 is rejected under 35 U.S.C. 102(b) as being anticipated by Myono et al. (US 2002/0130704).

Myono et al.'s figure 1 shows a step-up apparatus comprising: a level shift circuit (S1-S4) for receiving a first clock (CLK) signal to generate a 2nd clock signal, a 3rd clock signal, . . . , a K-th clock signal ( $K = 2, 3, \dots$ ) ( $K = 4$ ) having a definite voltage swing; and a charge pump circuit (M1-M4, C1-C4), connected to a first level shift circuit (S1 or CD), for stepping up a power supply voltage at a power supply voltage terminal using the first, second, . . . , K-th clock signals to generate a positive voltage, wherein the level shift circuit comprises an i-th ( $i = 2, 3, \dots, K$ ) level shift unit (circuit comprising S1-S4 is considered as a 4<sup>th</sup> level shift unit). It is not required to have ( $i-1$ )th level shift units in the level shift circuit) that is powered by (i-2). VDD, ( $i-1$ ). VDD and i.VDD where VVDD is a power supply voltage.

***Allowable Subject Matter***

4. Claim 1-41 are allowed.

5. Claims 44-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan Tra whose telephone number is 571-272-1755. The examiner can normally be reached on 8:00 A.M.-5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2816

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QUAN TRA  
PRIMARY EXAMINER  
Art Unit 2816

April 6, 2005